

WHAT IS CLAIMED IS:

1. A composite fabric article comprising multi-filament, interlaced yarns forming a fabric body of knit construction, the fabric body having an inner surface and an outer surface, the inner surface having at least one region of raised fibers or fleece formed thereupon, and the outer surface having an area upon which a non-continuous coating comprising discrete coating segments of coating material is applied to bind individual yarn fibers together in bound groupings and to enhance abrasion resistance of the outer surface.
2. The composite fabric article of claim 1, wherein the non-continuous coating is without substantial effect on insulation performance provided by the knit construction of the fabric body.
3. The composite fabric article of claim 1, wherein the non-continuous coating is without substantial effect on moisture transmission rate provided by the knit construction of the fabric body.
4. The composite fabric article of claim 1, wherein portions of the outer surface adjacent coating segments within said area of the outer surface are substantially free of coating material.
5. The composite fabric article of claim 1, wherein the non-continuous coating is disposed in a discrete area of the outer surface and an other area of the outer surface adjacent said discrete area is substantially free of coating material.
6. The composite fabric article of claim 1, wherein the non-continuous coating is disposed in a discrete area of the outer surface and a continuous coating is applied in an other area of the outer surface.
7. The composite fabric article of claim 5 or 6, wherein said discrete and other areas have differing resistances to abrasion.

8. The composite fabric article of claim 5 or 6, wherein said discrete and other areas have differing resistances to pilling.

35 9. The composite fabric article of claim 5 or 6, wherein said discrete and other areas have differing air permeabilities.

10. The composite fabric article of claim 6, wherein the other area of continuous coating is adjacent said discrete area of non-continuous coating.

40 11. The composite fabric article of claim 1, wherein the coating material binds yarn fiber to protect the yarn from fraying to enhance the pilling resistance within said portion of the fabric body.

45 12. The composite fabric article of claim 1, wherein the bound groupings of yarn fibers have a higher tenacity than individual yarn fibers.

13. The composite fabric article of claim 12, wherein the bound groupings of yarn fibers have a tenacity of greater than about 5 grams per denier.

50 14. The composite fabric article of claim 1, wherein yarn fiber comprises polyester.

15. The composite fabric article of claim 1, wherein the coating segments are in the form of discrete dots.

55 16. The composite fabric article of claim 1, wherein the coating material is selected from a group consisting of acrylic latex, polyurethane and silicone.

17. The composite fabric article of claim 1, wherein the knit construction is reverse plaited circular knit.

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18. The composite fabric article of claim 17, wherein stitch yarn is coarser than loop yarn.

19. The composite fabric article of claim 17, wherein loop yarn is at most about 1.5 dpf.

65 20. The composite fabric article of claim 17, wherein stitch yarn is at least about 1.5 dpf.

21. The composite fabric article of claim 1, wherein the knit construction is double needle
bar warp knit.

70 22. The composite fabric article of claim 21, wherein pile yarn is at most about 5 dpf.

23. The double face fabric article of claim 1, wherein the knit construction is non-reverse
plaiting circular knit.

75 24. The composite fabric article of claim 23, wherein stitch yarn is coarser than loop yarn.

25. The composite fabric article of claim 1, wherein the knit construction is Raschel warp
knit.

80 26. The composite fabric article of claim 1, wherein yarn at the outer surface further includes
an extensible material.

27. The composite fabric article of claim 26, wherein the extensible material is in the form of
an extensible yarn that is added to the yarn at the outer surface in plaited form.

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28. The composite fabric article of claim 26, wherein the extensible material is in the form of
an extensible yarn that is wound about the yarn at the outer surface.

29. The composite fabric article of claim 27, wherein the extensible yarn is added to the yarn
90 at the outer surface in air cover.

30. The composite fabric article of claim 1, wherein yarns at the outer surface include cored yarns comprising a core and a sheath.

95 31. The composite fabric article of claim 30, wherein the core comprises an extensible material.

32. The composite fabric article of claim 1, wherein the non-continuous coating is disposed on substantially all of the outer surface such that, as applied, areas of the fabric body at
100 the outer surface adjacent coating segments are substantially free of coating material to allow air passage through said areas.

33. The composite fabric article of claim 1 in the form of an article of wearing apparel.

105 34. The composite fabric article of claim 33, wherein said area corresponds to an area of wearing apparel typically subjected to relatively high levels of abrasion or pilling during use.

35. The composite fabric article of claim 33, wherein the article of wearing apparel is a jacket
110 or shirt and said area corresponds to an elbow region.

36. The composite fabric article of claim 33, wherein the article of wearing apparel is a jacket or shirt and said area corresponds to a shoulder region.

115 37. The composite fabric article of claim 1, wherein between about 0.5 to about 6.0 ounces per square yard of coating material is applied to form the non-continuous coating.

38. The composite fabric article of claim 37, wherein about 1.7 ounces per square yard of coating material is applied to form the non-continuous coating.

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39. The composite fabric article of claim 1, wherein the non-continuous coating is applied by a single head rotary screen.

125 40. The composite fabric article of claim 39, wherein the single head rotary screen has from about 30 to about 195 holes per lineal inch.

41. A method of forming a fabric article, said method comprising the steps of:
interlacing yarns comprising multi-filament fibers to form a fabric body of knit construction;
130 forming a raised or fleece region upon an inner surface of the fabric body; and
applying a non-continuous coating comprising discrete coating segments of coating material upon yarn fibers at an outer surface of the fabric body to bind individual yarn fibers together in bound groupings and to enhance abrasion resistance of the outer surface.

135 42. The method of claim 41, wherein the step of forming a fleece or raised region includes at least one selected from a group consisting of napping, sanding and brushing.

43. The method of claim 42, wherein the step of forming a fleece or raised region occurs prior to applying the non-continuous coating.

140 44. The method of claim 42, wherein the step of forming a fleece or raised region occurs subsequent to applying the non-continuous coating.

145 45. The method of claim 41, wherein the step of applying a non-continuous coating comprises applying the non-continuous coating in a discrete area of the outer surface.

46. The method of claim 45, wherein said discrete area corresponds to an area of the outer surface typically subjected to relatively high levels of pilling or abrasion during use.

- 150 47. The method of claim 45 further comprising applying a continuous coating in an area of the outer surface other than said discrete area.
48. The method of claim 45, wherein an area other than said discrete area is substantially free of coating material.
- 155 49. The method of claim 41, wherein the step of applying a non-continuous coating comprising discrete coating segments of coating material upon yarn fibers at an outer surface of the fabric body to bind individual yarn fibers together in bound groupings protects the fibers from fraying corresponding to an increase in pilling resistance.
- 160 50. The method of claim 41, wherein the discrete segments of coating material are in the form of dots.
51. The method of claim 41, wherein the step of applying a non-continuous coating includes
165 one of rotary printing, kiss rolling and gravour rolling.
52. The method of claim 41, wherein the step of interlacing yarns comprises double needle bar warp knitting.
- 170 53. The method of claim 41, wherein the step of interlacing yarns comprises Raschel warp knitting.
54. The method of claim 41, wherein the step of interlacing yarns comprises reverse plaited circular knitting.
- 175 55. The method of claim 41, wherein the step of interlacing yarns comprises non reverse plaited knitting.
- 180 56. The method of claim 41, wherein the non-continuous coating is applied such that the non-continuous coating is without substantial effect on insulation performance provided by

the knit construction of the fabric body.

57. The method of claim 41, wherein the non-continuous coating is applied such that the non-continuous coating is without substantial adverse effect on moisture vapor transmission rate provided by the knit construction of the fabric body.

58. The method of claim 41, wherein the non-continuous coating material is applied with a single head rotary screen.

59. The method of claim 58, wherein the rotary screen has between about 30 to about 195 holes per lineal inch.

60. The method of claim 41, wherein between about 0.5 to about 6.0 ounces per square yard of coating material is applied to form the non-continuous coating.

61. The method of claim 60, wherein about 1.7 ounces per square yard of coating material is applied to form the non-continuous coating.